California Energy Commission

STAFF REPORT

LOCALIZED HEALTH IMPACTS REPORT

For Selected Projects Awarded Funding Through the Alternative and Renewable Fuel and Vehicle Technology Program Under Solicitation PON-14-605 – Medium- and Heavy-Duty Advanced Vehicle Technology Demonstration

CALIFORNIA
ENERGY COMMISSION
Edmund G. Brown Jr., Governor

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Patrick Brecht
Primary Author

Larry Rillera
Project Manager

John P. Butler II
Office Manager
EMERGING FUELS AND TECHNOLOGIES OFFICE

Judith Friedman
Deputy Director
FUELS AND TRANSPORTATION DIVISION

Robert P. Oglesby
Executive Director

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ABSTRACT

Assembly Bill 118 (Núñez, Chapter 750, Statutes of 2007) created the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP). This statute, amended by Assembly Bill 109 (Núñez, Chapter 313, Statutes of 2008), authorizes the California Energy Commission to "develop and deploy innovative technologies that transform California's fuel and vehicle types to help attain the state's climate change policies." Assembly Bill 8 (Perea, Chapter 401, Statutes of 2013) reauthorizes the ARFVTP through January 1, 2024.

AB 118 also directs the California Air Resources Board (ARB) to develop guidelines to ensure air quality improvements. The ARB Air Quality Improvement Program (AQIP) Guidelines, approved in 2008, are published in the *California Code of Regulations, Title 13, Motor Vehicles, Chapter 8.1, AB 118 Air Quality Guidelines for the Alternative and Renewable Fuel and Vehicle Technology Program and the AQIP*. The *AQIP Guidelines* require the Energy Commission, as the funding agency, to analyze the localized health impacts of ARFVTP-funded projects that require a permit (13 CCR § 2343). As provided by 13 CCR § 2343, this *Localized Health Impacts Report* is required to be available for public comment for 30 days prior to the approval of projects.

This *Localized Health Impacts Report* analyzes the combined impacts in the communities, including exposure to air contaminants or localized air contaminants, or both, and including, but not limited to, communities of minority populations or low-income populations, as declared by the medium- and heavy-duty advanced vehicle technology demonstration proposers or as determined by Energy Commission staff. Appendix A, Localized Health Impact Report Assessment Method, describes the analysis used for this *Localized Health Impacts Report.*

Keywords: Air pollution**,** air quality, Air Quality Improvement Program (AQIP), California Air Resources Board (ARB), alternative fuel, Assembly Bill (AB) 118, California Environmental Quality Act (CEQA), criteria emissions, demographics, environmental justice (EJ) indicators, Environmental Justice Screening Method (EJSM), greenhouse gas emissions (GHG), localized health impact (LHI)

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EXECUTIVE SUMMARY

Under the *California Code of Regulations Title 13, (CCR § 2343),* this *Localized Health Impacts Report* describes the alternative fuel demonstration projects proposed for Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP) funding that may or may not require a conditional or discretionary permit or environmental review, such as conditional use permits, air quality permits, wastewater permits, hazardous waste disposal permits, and other land-use entitlements. This report does not include a project that requires only residential building permits, mechanical/electrical permits, or fire/workplace safety permits, as these are determined to have no likely impact on the environment.

The California Energy Commission is required to assess the localized health impacts of the projects proposed for ARFVTP funding. This *Localized Health Impacts Report* focuses on the potential impacts a project may or may not have on a particular community, particularly those communities that are considered especially vulnerable to emissions increases. For high-risk communities, this report assesses the impacts from criteria emissions/air toxics and the air quality attainment status.

Environmental justice communities, low-income communities, and minority communities are considered to be the most impacted by any project that could result in increased criteria and toxic air pollutants within an area because these communities typically have the most significant exposure to the emissions. Assessing projects and the communities surrounding them is important because of the health risks associated with these pollutants. Preventing health issues from air pollution in any community is important, but it is especially important to minimize any negative impacts in communities that are already considered to be at risk due to their continued exposure to these contaminants.

The project in this *Localized Health Impacts Report* is assessed for potential health impacts for the communities in which it will be located. Based on this analysis, it is not anticipated that implementation of this project will have negative impacts because there will not be a net increase in criteria and toxic emissions, specifically in those communities that are considered most vulnerable. Potentially, the project stands to provide improved quality of life through cleaner air.

CHAPTER 1:
Project Proposed for Funding

On December 19, 2014, the Energy Commission released a competitive Grant Solicitation PON-14-605, titled "Medium- and Heavy-Duty Advanced Vehicle Technology Demonstration," under the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP). This grant solicitation was an offer to cost-share the field demonstration of truck technologies that may become commercially available in California.

On March 24, 2015, the Energy Commission posted the Notice of Proposed Awards (NOPA) for PON-14-605, resulting in nine projects proposed for funding. This *Localized Health Impact Report* assesses and reports on the potential localized health impacts of the proposed projects with public review and comment for a 30-day period.

This chapter summarizes the projects proposed for Energy Commission funding. Table 1 provides the company, project name, project address, and environmental justice indicators. (See Appendix A.)

Table 1: Proposed Projects for Medium- And Heavy-Duty Vehicle Technology Demonstration With Environmental Justice (EJ) Indicators

Applicant	Project Name	Project Address	EJ Indicator(s)
Transportation Power Inc.	Heavy-Duty Electric Yard Tractors	Site 1: 13000 Danielson Street, Suite D, Poway, California 92064 Site 2: 1701 C Street, Sacramento, California 95811 Site 3: 12020 Malaga Road, Arvin, California 93203 Site 4: 16277 McCall Avenue, Selma, California 93662	Poverty, Minority, Age, and Unemployment
	Advanced Battery-Electric Port Vehicles	Site 1: 13000 Danielson Street, Suite D, Poway, California 92064 Site 2: Port of San Diego	None
	Heavy-Duty Refuse Trucks	Site 1: 13000 Danielson Street, Suite D, Poway, California 92064 Site 2: 4450 Roseville Road, North Highlands, California 95660	Poverty and Age
Motiv Power Systems	Class C Electric-Quest School Bus Demonstration	1165 Chess Drive, Suite E, Foster City, California 94404	Minority

Applicant	Project Name	Project Address	EJ Indicator(s)
	Electric Refuse and Loader Truck Demonstration	1165 Chess Drive, Suite E, Foster City, California 94404	Minority
CALSTART, Inc.	LADOT-BYD Battery Transit Bus	Site 1: 46147 7th Street West, Lancaster, California 93534 Site 2: Los Angeles Department of Transportation, 150 East Washington Street, Los Angeles, California 90015	Poverty, Minority, and Unemployment
North American Repower, LLC	The Sectran Security PHEV-Renewal Natural Gas Truck Demonstration Project	Site 1: 2625 Temple Heights Drive, Suite A, Oceanside, California 92056 Site 2: 1181 Cadillac Court, Milpitas, California 95035 Site 3: 7633 Industry Avenue, Pico Rivera, California 90660	Minority and Unemployment
Hydrogenics USA, Inc.	Hydrogenics Advanced Fuel Cell Vehicle Technology Demonstration for Drayage Truck	12707 High Bluff Drive, Suite 200, San Diego, California 92130	None
	New Flyer Advanced Fuel Cell Vehicle Technology Demonstration for Bus	12707 High Bluff Drive, Suite 200, San Diego, California 92130	None

Source: California Energy Commission staff analysis

Transportation Power Incorporated

Project Name: Heavy-Duty Electric Yard Tractors (HDEYT)

This project will take the next steps in refining and demonstrating Transportation Power Incorporated's (TransPower) electric yard tractor technologies, with the goal of establishing new paths-to-market. To achieve these goals, a total of five tractors will be demonstrated, with the tractors distributed among four prominent fleet operators around California. The tractors will feature incremental improvements to the battery-electric drive system, reflecting lessons learned during operation of three existing prototype electric tractors in 2015.

The battery subsystems on the HDEYT tractors will be modified to reduce their weight and cost, and TransPower will evaluate a new high-energy battery for potential use in these tractors. IKEA will operate one of the five HDEYT tractors at its main California distribution center in Tejon, where the first of TransPower's current prototype electric tractors was deployed in September 2014. These will be IKEA's two primary use California yard tractors and will obtain nearly 90 percent of the energy they use will be from solar energy generated at IKEA's site. Single tractors will also be deployed in the San Joaquin Valley with Harris Ranch and Grimmway Farms, and two tractors will be deployed with Devine Intermodal in the Sacramento area.

Site 1

The site at 13000 Danielson Street, Poway, California, 92064, is an office/warehouse building in a commercially zoned area of the Poway Technology Park. Commercial buildings surround the lot. This site will be the principal coordinating office for all Transportation Power projects.

The proposed site is within a mile of two schools, one day care center, and three medical offices/hospitals.

Site 2

The site at 1701 C Street, Sacramento, California, 95811, is in the Blue Diamond almond processing facility and supported by Devine Intermodal. Work at this location will be limited to minor modifications of wiring for recharging of an electric tractor and will be fully permitted in accordance with local building codes (if required) and consistent with the applicable zoning restrictions of the facility. The tractor to be deployed will perform identical duties to diesel tractors already routinely used at this facility, so the net impact on the surrounding community will reduced noise and emissions.

The proposed site is within one mile of 10 schools, 6 day care centers, and 6 medical offices or hospitals.

Site 3

The site at 12020 Malaga Road, Arvin, California, 93203, is a carrot processing facility operated by Grimmway Farms. Work at this location will be limited to minor modifications of wiring for recharging of an electric tractor and will be fully permitted in accordance with local building codes (if required) and consistent with the applicable zoning restrictions of the facility. The tractor to be deployed will perform identical duties to diesel tractors already routinely used at this facility, so the net impact on the surrounding community will be a reduction in noise and emissions.

There are no schools, day care centers, or health care facilities within a mile of the proposed site.

Site 4

The site at 16277 South McCall Avenue, Selma, California, 93662, is a beef processing plant operated by Harris Ranch. Work at this location will be limited to minor modifications of wiring for recharging of an electric tractor and will be fully permitted in accordance with local building codes (if required) and consistent with the applicable zoning restrictions of the facility. The tractor to be deployed will perform identical duties to diesel tractors already routinely used at this facility, so the net impact on the surrounding community will be a reduction in noise and emissions.

There are no schools, day care centers, or health care facilities within a mile of the proposed site.

Project Name: Advanced Battery-Electric Port Vehicles (ABEPV)

The goal of the ABEPV project is to refine and demonstrate TransPower's electric drayage truck, yard tractor, and reach stacker technologies, with the specific goal of testing a promising new lithium-ion battery technology. Another unique goal of the ABEPV project is to expand the use of electric port vehicles at the Port of San Diego, one of California's major ports. To achieve these goals, a total of five vehicles will be demonstrated – two new Class 8 electric drayage trucks, two new Class 8 electric yard tractors, and one Class 8+ reach stacker. Complete drive systems will be installed into the drayage trucks and yard tractors, and a higher capacity battery system and onboard charger will be installed into the reach stacker to replace earlier technology batteries and chargers that were installed by TransPower under contract to the commercial owner of the reach stacker, Terminalift. Terminalift will continue to operate the improved reach stacker, along with one of the new electric drayage trucks. The other electric drayage truck will be operated by BAE Systems, and Dole Fresh Fruit Company will operate the two electric yard tractors. All are Port of San Diego tenants, and the vehicle demonstration will be conducted within disadvantaged communities near the Port of San Diego, providing environmental and economic benefits where they are needed most urgently.

Site 1

The site at 13000 Danielson Street, Poway, California 92064, is an office/warehouse building in a commercially zoned area of the Poway Technology Park. Commercial buildings surround the lot. This site will be the principal coordinating office for all Transportation Power projects.

The proposed site is within one mile of two schools, one day care facility, and three health care facilities.

Site 2

The Port of San Diego location will be limited to minor modifications of wiring at three tenant facilities and will be consistent with all applicable zoning restrictions, port regulations, and other constraints applicable to port tenants.

The proposed site is within one mile of three schools, one day care facility, and three health care facilities.

Project Name: Heavy-Duty Electric Refuse Trucks (HDERT)

The HDERT project seeks to refine and demonstrate TransPower's electric truck technologies, with the specific goal of applying TransPower's technologies to heavy refuse trucks. Furthermore, the HDERT project will test a new higher-capacity battery system, which has the potential to improve the operating range of such trucks. The HDERT project responds to urgent needs in reducing fuel consumption, emissions, and noise from the thousands of refuse trucks operating in California and across the country. To achieve these goals, three prototype refuse trucks will be demonstrated. Complete drive systems will be installed into the refuse trucks, featuring new electrically driven accessories to operate trash lifting and compacting mechanisms. Two of the trucks will be operated daily by the County of Sacramento within disadvantaged communities, providing environmental and economic benefits where they are needed most urgently. Waste Management, which became involved in the project too late to make a formal commitment by the proposal deadline, is expected to operate the third truck in its Southern California fleet, to be confirmed before contract award. If Waste Management does not elect to operate the third truck, it will be used for technology advancement and a series of short demonstrations with various other California refuse truck operators.

Site 1

The site at 13000 Danielson Street, Poway, California, 92064, is an office/warehouse building in a commercially zoned area of the Poway Technology Park. Commercial buildings surround the lot. This site will be the principal coordinating office for all Transportation Power projects.

The proposed site is within one mile of two schools, a day care center, and three medical offices/hospitals.

Site 2

This site is at the County of Sacramento's North Area Recovery Station, 4450 Roseville Road, North Highlands, California, 95660. Work at this location will be limited to minor modifications of wiring and will be consistent with all applicable zoning restrictions, county regulations, and other applicable constraints. Vehicles to be deployed will perform identical duties to diesel vehicles already routinely used at the recovery station and in surrounding areas.

The proposed site is within one mile of two schools, and one health care facility but no day care centers. The demonstration route of this project is not fixed; therefore, school, day care, and health care facility information is unavailable.

Motiv Power Systems

Project Name: Class C Electric-Quest School Bus Demonstration

This project will take place at partner school districts using their existing facilities and current bus routes. The partner school districts are the Los Angeles Unified School District, the Kings Canyon Unified School District in Reedley, and the Colton Joint Unified School District (San Bernardino County).

Due to the number of partners and the opportunities for route place, site-specific permits will be acquired after the project has begun. No new manufacturing sites will be built to build the vehicles. Fleets will need to install a charger, which can be plugged into existing infrastructure that may require a licensed electrician to install depending on the facility. All three sites will be school district fleets operating routes in disadvantaged communities in California. Existing fleet facilities should be used.

Project Name: Electric Refuse and Loader Truck Demonstration

This project will take place on existing routes for both municipal and private waste fleets in Sacramento. No new manufacturing sites will be built to build the vehicles. Fleets will need to install a charger, which can be plugged into existing infrastructure that may require a licensed electrician to install, depending on the facility.

Fleets will be operating all-electric refuse trucks on routes in disadvantaged communities in California. Existing fleet facilities will be used. The City of Sacramento will use its refuse truck, dispatching it from the City of Sacramento Meadowview Service Center.

Both project locations are not fixed; therefore, an account of schools, day care centers, and medical offices and hospitals is unavailable.

CALSTART, Incorporated

Project Name: Los Angeles Department of Transportation (LADOT) – Build Your Dreams (BYD) Battery Transit Bus

This project will manufacture, deliver, demonstrate, and validate four of the world's first long-range, 33-foot battery-electric transit buses built to meet U.S. transit requirements. BYD's battery technology will provide buses a driving range of 165 miles per charge and a 3.5 hour charge time. The buses will be demonstrated on a bus route in downtown Los Angeles that serves inner city disadvantaged communities and is a high-profile route that traverses the city's downtown business and government center.

The replacement vehicles funded by this project are "zero-emission" battery-electric transit buses with zero tailpipe emissions. By replacing four compressed natural gas (CNG) buses with zero-emission, battery-electric buses, this project will help the South Coast Air Quality Management District (SCAQMD) and the State of California achieve State Implementation Plan (SIP) goals.

Site 1

The site at 46147 7th Street West, Lancaster, California, 93534, is an existing bus distribution and manufacturing facility and will be the location of the Downtown Area Short Hop (DASH) bus fabrication plant.

The proposed site is within one mile of two schools, a day care center, and a medical office or hospital.

Site 2

The site at 150 East Washington, Los Angeles, California, 90015, will be the location of the operation, storage, fueling, and demonstration of Electric BYD DASH.

The proposed site is within one mile of 10 schools, 4 day care centers, and 4 medical offices and/or hospitals.

North American Repower, Limited Liability Corporation

Project Name: The Sectran Security Plug-In Hybrid Electric Vehicle (PHEV)-Renewal Natural Gas Truck Demonstration Project

In collaboration with Sectran Security (SECTRAN), Efficient Drivetrains Incorporated, McLaren Performance Technologies, and Clean Energy Fuels Corporation, North American Repower will convert six diesel-powered, Class-5 (26,000-lb. gross vehicle weight range) SECTRAN armored vehicles into near-zero-emission plug-in hybrid electric vehicles (PHEV) that run on electricity and renewable natural gas (RNG). SECTRAN will operate these modernized trucks within disadvantaged communities in the SCAQMD of Los Angeles. The project team seeks to demonstrate that these converted near-zero-emission RNG-PHEV trucks will reduce emissions, improve fuel economy, and make a powerful business case for retrofit conversion of existing diesel fleets as a cost-competitive approach to dramatically reducing petroleum fuel consumption and harmful diesel and greenhouse gas (GHG) emissions.

SECTRAN trucks make frequent stops on highly congested urban routes. At each stop—for security and driver comfort—the engines are kept running but risk violating California's strict diesel idling regulations, which prohibit idling diesel truck engines for more than five minutes.

With the modernized trucks, SECTRAN will be able to eliminate diesel engine idling completely —while maintaining security and driver comfort—by operating in all-electric mode during stop-and-go operations on urban routes and in hybrid-mode during highway operations.

Site 1

The site at 2625 Temple Heights Drive, Suite A, Oceanside, California, 92056, will be a manufacturing facility for this project. North American Repower is in an office park that is zoned for the proposed activities that will be onsite.

The proposed site is located within a mile of six schools, five day care centers, and two medical offices or hospitals.

Site 2

The site at 1181 Cadillac Court, Milpitas, California will be a manufacturing facility. The site is an industrial zoned manufacturing facility surrounded by other industrial facilities.

The proposed site is within one mile of four schools and four day care centers, but no medical offices or hospitals.

Site 3

The site at 7633 Industry Avenue, Pico Rivera, California, 90660, will be the demonstration site for this project. The site is a commercial/industrial-zoned manufacturing plant surrounded by other industrial factories. Trucks will drive in ZIP codes 90001 to 91749 and will operate for 95 percent of the time in disadvantaged communities (DACs).

The proposed site is within a mile of about five schools and two day care facilities, but no medical offices or hospitals.

Hydrogenics USA, Incorporated

Project Name: Hydrogenics Advanced Fuel Cell Vehicle Technology Demonstration for Drayage Truck

This project will originate at 12707 High Bluff Drive, San Diego, California 92130. The proposed Hydrogenics Advanced Fuel Cell Electric Drayage Truck will be operated in California by TTSI in the port complexes of Los Angeles and Long Beach. Hydrogenics will design, build, and integrate its fuel cell power system technology into a Class 8 drayage truck in San Diego region.

At the beginning of the project, no new permits or zoning changes are anticipated for this project since it will not change the existing daily operation of the partners' business.

As for the new facility that Hydrogenics will start with the awarding of the project, the new building will be located in an existing industrial park where similar industries are operating. Identified locations are far from homes. Hydrogenics has already contacted San Diego County for any permits requirement and will follow up when the project is awarded. No construction on the facility is expected.

The proposed site is within a mile of eight schools, four day care centers, and six medical offices or hospitals. This project will conduct demonstrations outside San Diego, and are not fixed; therefore schools, day care centers, and medical centers are unavailable for these areas.

Project Name: New Flyer Advanced Fuel Cell Vehicle Technology Demonstration for Bus

This project will originate at 12707 High Bluff Drive, San Diego, California 92130. The proposed New Flyer Battery Dominant Fuel Cell Bus with Celerity Plus will be operated in California. System integration will be accomplished by New Flyer in their New Product Development Facility in Winnipeg, Manitoba, Canada, and components will come from Mississauga, Ontario, Canada and Alpharetta, Georgia. SunLine Transit in Coachella Valley will operate the bus, where it will be maintained and supported during the 12-month demonstration.

No new permits or zoning changes are anticipated to execute this project since the project will not change the existing daily operation of the partners' business.

The proposed site is within a mile of eight schools, four day care centers, and six medical offices/hospitals. This project will conduct demonstrations outside San Diego and are not fixed; therefore, schools, day care centers, and medical facilities are unattainable for these areas.

CHAPTER 2:
Approach

The *Localized Health Impact Report* (*LHI Report*) Assessment Method in Appendix A assesses communities potentially impacted by air pollution and possibly benefitted by the medium- and heavy-duty advanced vehicle technology demonstration projects. The California Air Resources Board's (ARB) *Proposed Screening Method for Low-Income Communities Highly Impacted by Air Pollution for Assembly Bill (AB) 32 Assessments* is also used to integrate data to identify low-income communities that are highly impacted by air pollution.[1] Other resources used in this assessment are the *California Infrastructure State Implementation Plans*, [2] which contain publicly noticed air quality attainment plans, and the *Green Book Nonattainment Areas for Criteria Pollutants*[3].

For this *LHI Report*, the Energy Commission interprets "permits" to connote discretionary and conditional use permits because they require a review of potential impacts to a community and the environment before issuance. Since ministerial-level permits, such as building permits, do not assess public health-related pollutants, the Energy Commission staff does not assess projects requiring only ministerial level permits in this report.

The cities where the projects will be located are all in nonattainment zones for ozone, PM[4] 2.5, and PM 10. Table 1 shows the EJ indicators for the nine projects in 12 cities, that is, minority populations, low incomes, and highly sensitive groups based on age (individuals younger than 5 years of age and older than 65 years of age). Table 2 shows the demographics. Arvin, Selma, North Highlands, Lancaster, Los Angeles, and Pico Rivera are both classified high-risk communities, according to the Environmental Justice Screening Method (EJSM).

Staff collected information about predicted emissions from the project proposals. Activities conducted are not expected to have any negligible impact on emissions including but not limited to transport of fuel or material to project sites for production or any potential increase in traffic. Demonstrations proposed will enhance market acceptance of advanced vehicle technologies that will lead to vehicle production and commercialization, reduced greenhouse gas emissions, and reduced petroleum use.

Activities proposed in these projects are identical duties to diesel vehicles already routinely used. Hence, there will be a net improvement in emissions at each site, as the diesel vehicles will be replaced with alternative fuel vehicles, thereby benefitting affected communities.

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1 California Air Resources Board, *Proposed Screening Method for Low-Income Communities Highly Impacted by Air Pollution, 2010* (Sacramento, California).

2 http://www.arb.ca.gov/planning/sip/sip.htm.

3 http://www.epa.gov/oaqps001/greenbk.

4 "Particulate matter" is unburned fuel particles that form smoke or soot and stick to lung tissue when inhaled, and a chief component of exhaust emissions from heavy-duty diesel engines.

CHAPTER 3:
Summary

If funded, the medium- and heavy-duty advanced vehicle technology demonstrations would result in developing cutting-edge technologies that achieve both energy and climate change goals. The sites will increase the widespread use of alternative fuel vehicles through education, demonstration, testing, evaluation, and outreach. As more alternative fuel vehicles enter the market and begin to displace gasoline and diesel vehicles, tailpipe pollutants will decrease significantly, especially in critical areas of the state such as the South Coast and San Joaquin air basins. Developing the advanced vehicle technologies will lead to sustainable methods of moving freight, goods, and people.

The anticipated impacts to the community where the project would be located are positive in terms of air quality and anticipated greenhouse gas reductions.

As indicated in Table 1, with further detail in Table 2, Arvin, Selma, North Highlands, Lancaster, Los Angeles, and Pico Rivera are high-risk communities, as identified in Appendix A. The anticipated benefit from the proposed projects for the people in these communities, especially the disadvantaged communities, is highly likely, if not certain, to be positive.

CHAPTER 4:
Acronyms

Advanced Battery-Electric Port Vehicle (ABEPV)
Air Quality Improvement Program (AQIP)
Air Resources Board (ARB)
Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP)
Assembly Bill (AB)
Build Your Dreams (BYD)
California Code of Regulations (CCR)
California Environmental Quality Act (CEQA)
Compressed Natural Gas (CNG)
Environmental justice (EJ)
Environmental justice screening method (EJSM)
Greenhouse gas (GHG)
Heavy-duty electric refuse truck (HDERT)
Heavy-duty electric yard tractor (HDEYT)
Localized health impact (LHI)
Los Angeles Department of Transportation (LADOT)
Notice of Proposed Awards (NOPA)
Particulate matter (PM)
Plug-in hybrid electric vehicle (PHEV)
Program Opportunity Notice (PON)
Sectran Security (SECTRAN)
South Coast Air Quality Management District (SCAQMD)
State Implementation Plan (SIP)

Table 2: Environmental Justice (EJ) Indicators Compared With California

Yellow highlighted areas indicate numbers (percentages) that meet the definition for EJ indicators.

	Number of EJ Indicators	Below Poverty Level (2009-2013)	Black Persons (2010)	American Indian and/or Alaska Native (2010)	Asian and/or Pacific Islander (2010)	Persons of Hispanic or Latino Origin (2010)	Persons Under 5 Years of Age (2010)	Persons Over 65 Years of Age (2010)	Unemployment Rate (February 2015)
California		**15.3%**	**6.2%**	**1.0%**	**13.0%**	**37.6%**	**6.8%**	**11.4%**	**6.7%**
			>30%	**>30%**	**>30%**	**>30%**	**>8.16%**	**>13.8%**	
Arvin	4	32.7%	1.0%	1.2%	0.8%	92.7%	11.5%	5.1%	12.8%
Foster City	1	4.6%	1.9%	0.1%	45.0%	6.5%	6.8%	13.4%	3.3%
Lancaster	3	21.5%	20.5%	1.0%	4.3%	38.0%	8.0%	8.1%	8.6%
Los Angeles	3	22.0%	9.6%	0.7%	11.3%	48.5%	6.6%	10.5%	8.1%
Milpitas	1	7.2%	2.9%	0.5%	62.2%	16.8%	6.9%	9.5%	4.1%
North Highlands	2	25.3%	11.4%	1.4%	4.8%	23.6%	8.2%	11.1%	5.7%
Oceanside	1	13.3%	4.7%	0.8%	6.6%	35.9%	7.0%	12.9%	5.5%
Pico Rivera	2	13.0%	1.0%	1.4%	2.6%	91.2%	6.8%	12.1%	7.1%
Poway	None	5.3%	1.6%	0.6%	10.2%	15.7%	5.1%	12.3%	3.4%
Sacramento	1	21.9%	14.6%	1.1%	18.3%	26.9%	7.5%	10.6%	6.7%
San Diego	None	15.6%	6.7%	0.6%	15.9%	28.8%	6.2%	10.7%	5.1%
Selma	4	23.3%	1.2%	2.1%	4.6%	77.6%	8.8%	9.9%	11.5%

Sources: Unemployment information from the State of California, Employee Development Department (EDD) Labor Market Information Division: http://www.labormarketinfo.edd.ca.gov/Content.asp?pageid=133 and Age / ethnicity demographics, U.S. Department of Census: http://quickfacts.census.gov

APPENDIX A:
Localized Health Impact Report Assessment Method

Based on the California Energy Commission's interpretation of the *California ARB* AQIP *Guidelines*, this *LHI Report* assesses the potential impacts to communities as a result of the projects proposed by the ARFVTP. This report is prepared under the *California ARB AQIP Guidelines, California Code of Regulations, Title 13, Motor Vehicles, Chapter 8.1 (CCR § 2343)*:

"(6) Localized health impacts must be considered when selecting projects for funding. The funding agency must consider environmental justice consistent with state law and complete the following:

> (A) For each fiscal year, the funding agency must publish a staff report for review and comment by the public at least 30 calendar days prior to approval of projects. The report must analyze the aggregate locations of the funded projects, analyze the impacts in communities with the most significant exposure to air contaminants or localized air contaminants, or both, including, but not limited to, communities of minority populations or low-income populations, and identify agency outreach to community groups and other affected stakeholders.
>
> (B) Projects must be selected and approved for funding in a publicly noticed meeting."

This *LHI Report* is not intended to be a detailed environmental health impact analysis of proposed projects nor is it intended to substitute for the environmental review conducted during the California Environmental Quality Act (CEQA) review. This *LHI Report* includes staff application of the Environmental Justice Screening Method (EJSM) to identify projects located in areas with social vulnerability indicators and the greatest exposure to air pollution and associated health risks.[5]

The EJSM was developed to identify low-income communities highly affected by air pollution for assessing the impacts of climate change regulations, specifically Assembly Bill 32 (Núñez, Chapter 488, Statutes of 2006), the California Global Warming Solutions Act of 2006. The EJSM integrates data on (i.) exposure to air pollution, (ii.) cancer risk, (iii.) ozone concentration, (iv.) frequency of high ozone days, (v.) race/ethnicity, (vi.) poverty level, (vii.) home ownership, (viii.) median household value, (ix.) educational attainment, and (x.) sensitive populations (populations under 5 years of age or over 65 years of age).

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5 California Air Resources Board (ARB). *Air Pollution and Environmental Justice, Integrating Indicators of Cumulative Impact and Socio-Economic Vulnerability Into Regulatory Decision-Making, 2010.* (Sacramento, California) Contract authors: Manuel Pastor Jr., Ph.D., Rachel Morello-Frosch, Ph.D., and James Sadd, Ph.D.

To determine high risk communities, environmental justice (EJ) indicators for locations of the medium- and heavy-duty advanced vehicle technology demonstrations are compared to data from the U.S. Department of Census or other public agency. Staff identifies high-risk communities by using a two-part standard. For a community to be considered high- risk, for this assessment, it must meet both Parts 1 and 2 of this standard.

Part 1:

- Communities located in nonattainment air basins for ozone, PM 10 or PM 2.5

Part 2:

- Communities having more than one of the following EJ indicators: (1) minority, (2) poverty, (3) unemployment and/or (4) high percentage of population under 5 years of age and over 65 years of age. The EJ indicators follow:

    - A minority subset represents more than 30 percent of a given city's population. (MINORITY)

    - A city's poverty level exceeds California's poverty level. (POVERTY)

    - A city's unemployment rate exceeds California's unemployment rate. (UNEMPLOYMENT)

    - The percentage of people living in that city are younger than 5 years of age or older than 65 years of age is 20 percent higher than the average percentage of persons under 5 years of age or over 65 years of age for all of California. (SENSITIVE POPULATIONS – AGE)